

Chapter 5

Description of a New Species of Scorpion from the Réserve Spéciale d'Anjanaharibe-Sud, Madagascar

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Abstract

Among the few scorpion specimens collected in the Réserve Spéciale d'Anjanaharibe-Sud was a new species belonging to the enigmatic genus *Microcharmus* Lourenço, 1995 (Scorpiones, Buthidae, Microcharminae). At the two sites where the new species was found, it was associated with immature forms of *Grosphus madagascariensis* (Gervais). With the description of *Microcharmus fisheri*, new species, the total number of species known for this genus is five, all of which occur only in northern Madagascar.

Résumé

Parmi quelques scorpions collectés dans la Réserve Spéciale d'Anjanaharibe-Sud, une nouvelle espèce appartenant au très énigmatique genre *Microcharmus* Lourenço, 1995 (Scorpiones, Buthidae, Microcharminae) a été trouvée. Elle est décrite à présent. Dans les deux sites de collecte de la nouvelle espèce, celle-ci se trouvait associée avec des formes immatures de *Grosphus madagascariensis* (Gervais). Avec la description de *Microcharmus fisheri*, nouvelle espèce, le nombre total d'espèces s'élève à cinq.

Introduction

Few scorpions were collected during the inventory of the Réserve Spéciale d'Anjanaharibe-Sud. However, the use of mini-Winkler extraction techniques (see Chapter 4) led to the discovery of a new species of scorpion belonging to the enigmatic genus *Microcharmus* Lourenço, 1995 (Buthidae, Microcharminae). When this genus was described 2 years ago (Lourenço, 1995), it was known only by the type species, *M. cloudsleythompsoni*. Subsequently, a second species, *M. hauseri* Lourenço, 1996 (Lourenço, 1996a), was described from Nosy Be. Finally, with the recent publication of the scorpion volume in the *Faune*

de Madagascar series, two more species were added to the genus *Microcharmus*: *M. sabineae* and *M. jussarae* (Lourenço, 1996b). Including the new species described herein, the total number of species of *Microcharmus* is now five.

Microcharmus fisheri Lourenço, new species (Fig. 5-1)

Holotype (male) and allotype (female): Madagascar, 9.2 km SSW of Befingotra, Réserve Spéciale d'Anjanaharibe-Sud, 14°45'S, 49°28'E (1200 m), 9 November 1994, B. L. Fisher. Two paratypes (one male and one female): Madagascar, 6.5 km SSW of Befingotra, Réserve Spéciale d'Anjanaharibe-Sud, 14°45'S, 49°30'E (875 m, from sifted litter, leaf mold rotten wood in mon-

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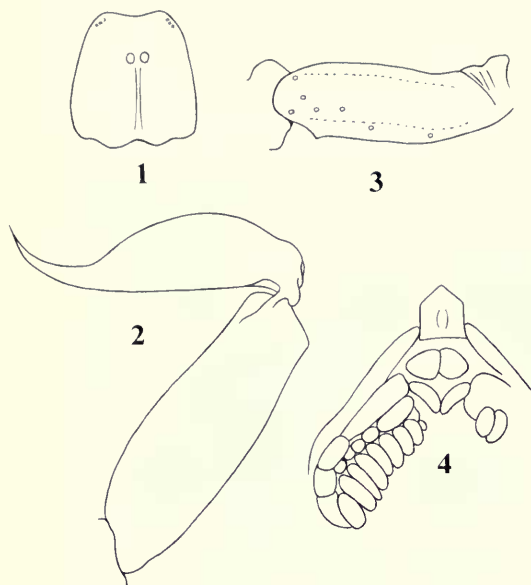


FIG. 5-1. 1-3, *Microcharmus fisheri*, male holotype: carapace (1), metasomal segment V and telson, lateral view (2), and femur, dorsal view, showing A- α trichobothrial configuration (3). 4, *Microcharmus fisheri*, female allotype: ventral region, showing sternum, genital operculum, and pectines.

tane rain forest), 19 October 1994, B. L. Fisher (1070). At both sites where the new species was collected, it was associated with immature forms of *Grosphus madagascariensis* (Gervais, 1844).

Holotype, allotype, and one paratype (female) deposited in the Field Museum of Natural History. One paratype (male) deposited in the Muséum National d'Histoire Naturelle, Paris.

Etymology: Patronym in honor of Brian L. Fisher, who collected the specimens.

Diagnosis

The new species differs from *Microcharmus cloudsleythompsoni*, *M. sabineae*, and *M. jussarae* by possessing a variegated pattern of pigmentation, which is also known in *M. hauseri*. *Microcharmus fisheri* is distinguished from *M. hauseri* by differences in the pattern of pigmentation, mainly of the chelicerae and telson (see key).

Key to the species of *Microcharmus*

1. Three pairs of lateral eyes 2
Two pairs of lateral eyes *M. sabineae*

TABLE 5-1. Measurements (in mm) of the male holotype of *M. fisheri*, new species.

Carapace	
Length	1.6
Anterior width	1.1
Posterior width	1.8
Metasomal segment I	
Length	0.8
Width	1.0
Metasomal segment V	
Length	2.1
Width	0.8
Depth	0.8
Vesicle	
Width	0.5
Depth	0.5
Pedipalp	
Femur length	1.2
Tibia length	1.8
Chelae length	2.4
Movable finger	
Length	1.6

2. General coloration very pale, with only vestigial spots; spiracles semioval or oval 3
General coloration yellowish with several brownish spots over the body legs and pedipalps, giving a general variegated appearance; spiracles semilinear 4
3. Pectinial tooth count from 9 to 12
..... *M. cloudsleythompsoni*
Pectinial tooth count from 7 to 9
..... *M. jussarae*
4. Chelicerae recovered with variegated brownish spots; telson yellowish without spots
..... *M. hauseri*
Chelicerae yellowish with some diffuse brownish spots anteriorly; telson yellowish with the dorsal surface brownish and large brownish spots laterally *M. fisheri*

Description Based on Male Holotype (measurements presented in Table 5-1)

COLORATION—Basically yellowish brown, symmetrically marbled with dark reddish brown, producing an overall variegated appearance. Prosoma: carapace yellowish and heavily spotted; eyes surrounded by black pigment. Mesosoma: yellowish with confluent brown stripes, producing a variegated appearance. Venter yellowish with three longitudinal brownish strips over the sternites.



FIG. 5-2. Map of northern Madagascar showing the type localities for the known species of the genus *Microcharmus*.

Metasoma: segments I–III yellowish; IV and V reddish yellow, with numerous brown spots. Telson: Vesicle yellowish with the dorsal surface brownish and large brownish spots laterally. Chelicerae yellowish with some diffuse brownish spots anteriorly; fingers light reddish. Pedipalps: yellowish with brown spots on femur and tibia; chelae yellowish; fingers brownish at the base. Legs yellowish with diffuse brownish spots.

MORPHOLOGY—Carapace slightly granular; anterior margin with a slight median concavity. Anterior median, superciliary, and posterior median keels not strongly developed. All furrows moderate to weak. Median ocular tubercle distinctly anterior to the center portion of the carapace; median eyes separated by one ocular diameter. Three pairs of lateral eyes. Sternum subpentagonal to pentagonal. Mesosoma: tergites moderate to slightly granular. Median keel moderate in all tergites; vestigial on VII. Tergite VII pentacarinat. Venter: genital operculum divided longitudinally. Pectines: pectinal tooth count 10–10; basal middle lamellae of the pectines not dilated; fulcra absent. Sternites almost smooth with semioval to semilinear stigmata; VII without keels. Metasoma: segments I–III with 10 keels, crenulate. Segment IV with 8 keels, crenulate. Intercarinal spaces slightly granular. Segment V with only vestigial keels, round. Telson smooth and flattened, without keels and with a short and moderately curved aculeus; subaculear tooth absent. Cheliceral dentition char-

acteristic of the family Buthidae (Vachon, 1963); however, distinctly smaller than the typical condition in this family. Pedipalps: femur pentacarinat, slightly crenulate; tibia and chelae with some vestigial keels, slightly crenulate; all faces slightly granular. Movable fingers with 7–8 semioblque rows of granules; accessory granules absent. Trichobothriotaxy; orthobothriotaxy A- α (Vachon, 1973, 1975). Legs: tarsus with very numerous fine setae ventrally. Tibial spurs moderately developed.

VARIATION—Coloration, pigmentation, and morphology of allotype similar to that of the holotype male. Smaller pectines; tooth count 8–8; basal middle lamellae not dilated. Paratypes: tooth count 10–10 (male) and 8–8 (female).

Biogeographical Remark

All of the described species of the genus *Microcharmus* are known only from the northern portion of Madagascar (Fig. 5-2). This genus shares close affinities with elements of the scorpion fauna of the Oriental region, that is, Sri Lanka and India (Lourenço, 1996c).

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